

**Progress Report on Funded Nursery Projects  
Washington State Department of Agriculture**

**Date:**

**Project Title:** Genetic Disease Resistance in Ornamental Tree Fruit

**Project Leader:** Gary A. Moulton

**Progress:** To be submitted for all projects funded in FY05 (July 1, 2004 to June 30, 2004); and FY 06 (July 1, 2005 to June 30, 2006).

In 2004 data was taken on trees in the established crabapple trial plot, including bloom dates in spring (April-May) and a rating in late fall (November) of scab, mildew, and general tree health. Overall ornamental quality at that time was rated also. Photographs were taken to document the appearance and qualities of promising varieties for use in publications. In spring 2004 the new ornamental tree fruit trial plot was established, which includes 3 trees each of the following cultivars and selections: *Cherry* – **Akebono**, **Amanogawa**, **Kwanzan**, **Mount Fuji**, **Royal Burgundy**, **Shirofugen**, **Shogetsu**, **Yoshino**; *Plum* – **Newport**, **Krauter Vesuvius**; *Pear* – **Jack**, **Aristocrat**; *Crabapple* – ‘**Canary**,’ ‘**Firebird**,’ ‘**Orange Crush**,’ ‘**Prairie Rose**,’ ‘**Royal Raindrops**.’ Additional cultivars will be added in winter 2004-spring 2005 (see appendix.)

In the established crabapple trial, 2004 produced exceptional fall fruit color and set in many varieties. The top performers continue to include ‘**Evereste**,’ ‘**Golden Raindrops**’ and ‘**Red Jewel**,’ all of which show excellent overall ornamental quality and high disease resistance. ‘**Evereste**’ and ‘**Red Jewel**’ keep their green leaves until quite late in autumn and are loaded with abundant bright red fruit that persists well into the winter. Fruit of ‘**Golden Raindrops**’ is also persistent but yellow, small and less conspicuous. The golden leaves, with their characteristic cut-leaf structure, add to the late ornamental effect.

Other white-flowering crabapples with good appearance and disease resistance are ‘**Adirondack**,’ ‘**Christmas Holly**,’ ‘**Lancelot**,’ ‘**Silver Moon**’ and ‘**White Angel**.’ All of these will fit well to the backyard and urban landscape. ‘**Silver Moon**’ is large and vigorous, a fine candidate for public open spaces such as parks. An old standby, ‘**Professor Sprenger**’ was spectacular this fall, its branches covered with small bright orange fruit.

In pink-flowering crabapple varieties, ‘**American Spirit**,’ ‘**Louisa**,’ ‘**Candymint Sargent**,’ ‘**Pink Princess**,’ ‘**Prairifire**’ and ‘**Prairie Maid**’ are proving to be well adapted. ‘**Prairifire**’ stands out for its intense deep pink color, though it is somewhat less resistant to scab. We are seeking a replacement that is equally ornamental with better scab resistance. ‘**Louisa**’ is an excellent specimen tree, with a strongly weeping habit and pale rose-pink flowers. The graceful limb structure is attractive even in winter when all the leaves are gone. Field resistance to scab and mildew is also very good.

A 2002 introduction originating in the Puget Sound, ‘**Marilee**’ is patented by Marvin Jarmin of Mount Vernon. It has pink and white semi-double flowers and a narrowly upright growth habit which would be suitable for street side ornamental planting, especially as it sets no fruit to drop and make a mess. A WSU cross of **Alkmene X Prima** with white single flowers is immune to scab and produces attractive, edible yellow fruit that hangs on the tree well into winter if not harvested. The fruit is tart but edible, useful for jelly, pickled fruit, and hard cider blending. Pollination trials in 1998 showed that this seedling will pollinate both Jonagold and Fuji. ‘**Pink Cloud**’ seedling has highly ornamental pink double flowers, bronze leaves, and large, tart red fruit.

The WSU Mount Vernon Research Station web site at <http://mtvernon.wsu.edu> includes data on the crabapple research and links to the crabapple bulletin *EB 1809 Crabapples for Western Washington Landscapes*, the International Ornamental Crabapple Society, and other pages of interest.

**APPENDIX:**

**Acquisition List 2004-05 (3 trees/cultivar or selection , except as noted)**

**CHERRY**

Autumn Flowering Higan (*P. subhirtella* "Autumnalis Rosea')

Cascade Snow

Rosy Cloud (*P. subhirtella* v. *pendula*)

Sargent (*P. Sargentii*)

Snow Fountain [Snowfozam] (*P. subhirtella* v. *pendula*)

Snow Goose (2 trees)

Spire (*P. x hilleri*)

**PLUM**

Big Cis (*P. cistena* sport)

Mt. St. Helens

**PEACH**

D78-78

K22-126

K23-140

**JAPANESE FLOWERING APRICOT (*P. mume*)**

Kobai (Kanko Bai)

Mitsubara Red

Peggy Clarke

Rosemary Clarke

W.B. Clarke

**ALMOND**

Flowering Almond (*P. triloba*)

Dwarf Flowering Almond (*P. glandulosa* 'Rosea Plena')

Dwarf Russian Almond (*P. tenella*)

**PEAR (*P. calleryana*)**

Aristocrat (2 trees)

Chanticleer

Cleveland Select

Jack (1 tree)

**CRABAPPLE**

Cardinal (*M. hupehensis*)

Coral Cascade

Holiday Gold

May's Delight

Pumpkin Pie

Royal Raindrops (2 trees)

Scarlet Brandywine

Spring Sensation